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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,023	07/07/2003	Kyung-Hun Jang	249/388	6627

27849 7590 05/21/2007

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EXAMINER	
SHAN, APRIL YING	
ART UNIT	**PAPER NUMBER**
2135	
MAIL DATE	**DELIVERY MODE**
05/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/613,023	JANG ET AL.	
	Examiner	Art Unit	
	April Y. Shan.	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Applicant's amendment, filed 20 February 2007, has been received, entered into the record, and respectfully and fully considered.

2. As a result of the amendment, claims 1, 7-10 and 15 are amended, claims 16-21 are newly added. As courtesy, the examiner enters newly added claims 16-21. Therefore, claims 1-21 are now presented for examination.

3. Any objections/rejections not repeated below for record are withdrawn due to Applicant's amendment.

Claim Objections

4. Claims 1-15 are objected to because of the following informalities:

As per **claims 1 and 10**, (a) creating a plurality of temporary address sets by randomly transforming, a unique Media Access Control (MAC) address of a wireless terminal, and transmitting each temporary address set to the corresponding wireless terminal" are grammatically incomprehensible.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per **claims 1 and 10**, the Applicant recites "(a) creating a plurality of temporary address sets by randomly transforming, a unique Media Access Control (MAC) address of a wireless terminal, and transmitting each temporary address set to the corresponding wireless terminal". The examiner carefully and fully reviews the Applicant's original disclosure, for example, in the abstract, the Applicant discloses "creating a plurality of temporary address sets, each of which corresponds to a unique Media Access Control (MAC) address of a wireless terminal..." and on page 11, par. [0030], however, the Applicant discloses "In the temporary address set generation step 23, the wireless access node 11 randomly transforms the unique MAC address MAC Add1 of the first wireless terminal 13...creates **a temporary address set consisting of N temporary addresses corresponding to the unique MAC address.** The examiner finds no support in the original disclosure about "creating **a plurality of** temporary address sets by randomly transforming, a unique MAC address of a wireless terminal.." as recited in claims 1 and 10.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

7. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per **claims 1 and 10**, the Applicant recites "(a) creating **a plurality of** temporary address sets by randomly transforming, a unique Media Access Control (MAC) address of a wireless terminal, and transmitting each temporary address set to the corresponding wireless terminal". The examiner carefully and fully reviews the Applicant's original disclosure, for example, in the abstract, the Applicant discloses "creating a plurality of temporary address sets, each of which corresponds to a unique Media Access Control (MAC) address of a wireless terminal..." and on page 11, par. [0030], the Applicant discloses "In the temporary address set generation step 23, the wireless access node 11 randomly transforms the unique MAC address MAC Add1 of the first wireless terminal 13... **creates a temporary address set consisting of N temporary addresses corresponding to the unique MAC address.** Please note there are **a plurality of temporary address sets** are created recited in claims 1 and 10. Also create **a temporary address set consisting of N temporary addresses** disclosed in the original disclosure is different from create **a plurality of temporary address sets** recited in claims 1 and 10. For creating a temporary address set, a

unique MAC address is needed. Then, for creating a plurality of temporary address sets, is there more than one unique Media Access Control addresses are needed? *In re Wands, 858 F. 2d 731, 737, 8 USPQ2D 1400, 1404 (Fed. Cir. 1998).* Therefore, the amended claim limitation in claims 1 and 10 are contradicted with the Applicant's original disclosure, which is not enabling.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-15 and 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1 and 10, "(a) creating a plurality of temporary address sets by randomly transforming, a unique MAC address of a wireless terminal..." is recited. However, according to the original disclosure [0030], **each temporary address set** is created by randomly transforming a unique MAC address of a wireless terminal **NOT "a plurality of temporary address sets** by randomly transforming, a unique MAC address of a wireless terminal" as recited in claims 1 and 10.

As per claim 17, "temporary address sets stored in memory" is recited. However, in light of the original disclosure, there are different memories, such as first memory, second memory. Then, what this memory is referring to?

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio et al. (U.S. Patent 7,050,789) in view of Ozzie et al. (U.S. Patent No. 6,859,821).

As per **claim 1**, Kallio et al. discloses a method of guaranteeing users' anonymity (anonymity address – e.g. col. 3, line 42) in a wireless Local Area Network (LAN) system (col. 1, lines 13-15 and col. 2, lines 24-26), the method comprising:

(a) creating a plurality of temporary address sets (list – e.g. col. 3, lines 55 and a bank of acceptable anonymity addresses – e.g. col. 4, lines 1-4) each of which corresponds to (col. 3, lines 41-64) a unique Media Access Control (MAC) address (This identifier could be, a MAC address – e.g. col. 2, lines 61-64) of a wireless terminal (col. 2, lines 4-5), and transmitting each temporary address set to the corresponding wireless terminal (205 in fig. 2 and col. 2, lines 24-26); and

(b) performing data packet transmissions between a wireless terminal and a wireless access node using a temporary address selected from the temporary address set corresponding to the wireless terminal as a source address or a destination address (col. 4, lines 19-24).

Kallio et al. does not expressly disclose creating temporary address by randomly transforming MAC address.

Ozzie et al. discloses creating temporary address by randomly transforming MAC address (e.g. col. 23, lines 51-60).

Kallio et al. and Ozzie et al. are in the same field of endeavor of internet access.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to modify Kallio et al.'s creating a plurality of temporary address sets method with Ozzie et al.'s creating temporary address by randomly transforming MAC address.

The motivation of doing so would have been "Uniqueness can be guaranteed if the random number generator generates adequately random numbers and the seed is fairly unique", as disclosed by Ozzie et al. (col. 23, lines 55-57) and "create address not be identical to an actual...MAC address", as disclosed by Kallio et al. (col. 3, lines 65 – 67).

As **per claims 2 and 3**, Kallio et al. – Ozzie et al. discloses a method as applied in claim 1. Kallio et al. further discloses wherein the wireless access node (according to fig. 1, key server 105 connects to wireless access point 105 and wireless terminal 103. Therefore, it is a wireless access node) creates the temporary address sets, each of which consists of N (where N is an integer greater than or equal to two) temporary addresses using a MAC address contained in an access or authentication request message transmitted from a corresponding wireless terminal and wherein the wireless access node encodes the temporary address sets using a predetermined encryption key for each temporary address set, and respectively transmits the encoded temporary address sets to the corresponding wireless terminals (col. 3, lines 41-67 and col. 4, lines 1-24).

As per **claim 4**, Kallio et al. – Ozzie et al. discloses a method as applied in claims 3. Kallio et al. further discloses wherein each encryption key is created upon

authentication of the corresponding wireless terminal (col. 5, lines 34-45, lines 56-67 and col. 6, lines 1-4).

As per **claim 5**, Kallio et al. – Ozzie et al. discloses a method as applied in claims 1. Kallio et al. further discloses a first addressing, which is performed in the wireless access node, and generates a temporary address as a destination address randomly selected from the temporary address set corresponding to a wireless terminal that is requesting authentication (col. 3, lines 40-67, col. 4, lines 1-24 and col. 4, lines 35-38).

As per **claim 6**, Kallio et al. – Ozzie et al. discloses a method as applied in claims 5. Kallio et al. further discloses a second addressing, which is performed in the wireless terminal, and generates a temporary address as a source address randomly selected from the temporary address set corresponding to the wireless terminal (col. 4, lines 56-67 and col. 5, lines 1-10).

As per **claim 7**, Kallio et al. – Ozzie et al. discloses the claimed method of steps as applied above in claim 1. Therefore, Kallio et al. – Ozzie et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 8**, Kallio et al. – Ozzie et al. discloses the claimed method of steps as applied above in claim 3. Therefore, Kallio et al. – Ozzie et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 9**, Kallio et al. – Ozzie et al. discloses the claimed method of steps as applied above in claim 6. Therefore, Kallio et al. – Ozzie et al. discloses a computer

readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 10**, Kallio et al. discloses a wireless Local Area Network (LAN) system of guaranteeing users' anonymity comprising:

a wireless access node (according to fig. 1, key server 105 connects to wireless access point 105 and wireless terminal 103. Therefore, it is a wireless access node), which creates a plurality of temporary address sets, each of which corresponds to a unique Media Access Control (MAC) address of a wireless terminal, and uses a temporary address selected from each temporary address set as a destination address (col. 3, lines 40-67, col. 4, lines 1-24 and col. 4, lines 35-38); and

at least one wireless terminal (terminal 103 in fig. 1 could be a wireless terminal – e.g. col. 2, lines 24-25), which receives a temporary address set corresponding to a unique MAC address thereof from among the plurality of temporary address sets created in the wireless access node, and uses a temporary address selected from the received temporary address set as a source address (col. 4, lines 56-67 and col. 5, lines 1-10)

Kallio et al. does not expressly disclose creating temporary address by randomly transforming MAC address.

Ozzie et al. discloses creating temporary address by randomly transforming MAC address (e.g. col. 23, lines 51-60).

Kallio et al. and Ozzie et al. are in the same field of endeavor of internet access.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to modify Kallio et al.'s creating a plurality of temporary address sets system with Ozzie et al.'s creating temporary address by randomly transforming MAC address.

The motivation of doing so would have been "Uniqueness can be guaranteed if the random number generator generates adequately random numbers and the seed is fairly unique", as disclosed by Ozzie et al. (col. 23, lines 55-57) and "create address not be identical to an actual...MAC address", as disclosed by Kallio et al. (col. 3, lines 65 – 67).

As per **claims 11 and 12**, Kallio et al. – Ozzie et al. discloses a system as applied in claims 10. Kallio et al. further discloses wherein the wireless access node creates the temporary address sets, each of which consists of N (where N is an integer greater than or equal to two) temporary addresses, using for each address set the MAC address contained in an access or authentication request message transmitted from the corresponding wireless terminal and wherein the wireless access node encodes the temporary address sets using a predetermined encryption key for each address set, and respectively transmits the encoded temporary address sets to the corresponding wireless terminals (col. 3, lines 41-67 and col. 4, lines 1-24).

As per **claim 13**, Kallio et al. – Ozzie et al. discloses a system as applied in claims 12. Kallio et al. further discloses wherein each encryption key is created upon

authentication of the corresponding wireless terminal (col. 5, lines 34-45, lines 56-67 and col. 6, lines 1-4).

As per **claim 14**, Kallio et al. – Ozzie et al. discloses a system as applied in claims 10. Kallio et al. further discloses wherein the wireless access node (access point" – e.g. col. 6, line 20) comprises:

a first memory, which stores the plurality of temporary address sets, each of which consists of N (where N is an integer greater than or equal to two) random addresses and is created corresponding to a unique MAC address (claim 26 and col. 6, lines 10-63);

a first MAC address filter, which filters a unique MAC address from a source address of a data packet received from a corresponding wireless terminal by referring to the temporary address sets stored in the first memory (claim 26 and col. 6, lines 10-63. Please note Kallio et al. discloses "the I/O interfaces 4057 and 4058 may be an Ethernet, ...IEEE 802.11b..." in col. 6, line 39-45. It is well known in the art, the 802.11 is a standard of wireless system that focuses on the MAC protocol for access point based networks and ad-hoc network and access point contains the ability to filter devices based on their MAC address);

a destination address generation unit (e.g. col. 4, lines 25-29), which enables a temporary address set corresponding to the unique MAC address of the wireless terminal requesting authentication from among the temporary address sets stored in the first memory, generates a first random selection signal, generates a temporary address

randomly selected from the enabled temporary address set, and uses the temporary address as a destination address (claim 26 and col. 6, lines 10-63); and

a first random selection unit which randomly selects a temporary address from the temporary address set enabled in the first memory according to the first random selection signal generated in the destination address generation unit, and outputs the selected temporary address to the destination address generation unit (claim 26, col. 6, lines 10-63 and col. 3, lines 48-64).

As per **claim 15**, Kallio et al. – Ozzie et al. discloses a system as applied in claims 10. Kallio et al. further discloses wherein the wireless terminal ("terminals" – e.g. col. 6, line 13) comprises:

a second memory which receives a temporary address set from the wireless access node and stores the temporary address set corresponding to a unique MAC address of the wireless terminal (col. 6, lines 10-63 and claim 51);

a second MAC address filter which determines whether a destination address of a data packet received from the wireless access node is included in the temporary address set by referring to the temporary address set stored in the second memory, and generates a receipt enable signal according to a determination result (col. 6, lines 10-63 and claim 51. Please note Kallio et al. discloses "the I/O interfaces 4057 and 4058 may be an Ethernet, ...IEEE 802.11b..." in col. 6, line 39-45. It is well known in the art, the 802.11 is a standard of wireless system that focuses on the MAC protocol for access point based networks and ad-hoc network and access point contains the ability to filter devices based on their MAC address);

a source address generation unit (e.g. col. 4, lines 25-29), which generates a second random selection signal according to a source address request signal, generates a temporary address randomly selected from the temporary address set stored in the second memory, and uses the temporary address as a source address (claim 51); and

a second random selection unit which randomly selects a temporary address from the temporary address set stored in the second memory according to the second random selection signal generated in the source address generation unit, and outputs the selected temporary address to the source address generation unit (col. 6, lines 10-63, claim 51 and col. 3, lines 48-64).

As per **claims 16-18**, they are rejected using the same rationale as rejecting claim 14 above.

As per **claims 19-21**, they are rejected using the same rationale as rejecting claim 15 above.

Response to Arguments

14. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

15. On page 12 of the remark, the Applicant states that the claims are now limited to tangible computer media as the spec no longer includes carrier wave. The examiner takes this a disavowal of that nonstatutory embodiment and withdraws the 101 rejections on claims 7-9.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (PTO – 892).

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Contact Information

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AYS

10 May 2007
AYS

HOSUK SONG
PRIMARY EXAMINER